CAMP WHITE (PWSNO 1280284)
SOURCE WATER ASSESSMENT REPORT

October 23, 2001

State of Idaho
Department of Environmental Quality

SOURCE WATER ASSESSMENT FOR CAMP WHITE

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your particular drinking water source is based on a land use inventory within the well recharge zone, your water quality history, construction characteristics associated with your well or wells, and site specific sensitivity factors associated with the aquifer your water is drawn from.

This report, *Source Water Assessment for Camp White describes* the public drinking water source, potential contaminant sites located within in the well recharge boundaries, and the susceptibility (risk) that may be associated with any associated potential contaminants. DEQ used a refined computer model approved by the EPA to map the boundaries of the well recharge area into time of travel zones (zones indicating the number of years necessary for a particle of water to reach a well) for water in the Rathdrum Prairie Aquifer. The computer model used data assimilated by DEQ from a variety of sources including well logs in the vicinity of the Camp White well.

This assessment, taken into account with local knowledge and concerns, should be used as a planning tool to develop and implement appropriate protection measures for this system. **The results should not be used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

Potential Contaminant Inventory. The Camp White public water system serves 6 buildings and 24 RV spaces at a seasonal camp located on the north side of the Spokane River between Coeur d'Alene and Post Falls, Idaho. Owned by Millwood Presbyterian church, the camp is used mainly on weekends between mid June and the end of October. Maximum occupancy is about 200 people The recharge zone for the well is a narrow corridor encompassing about 2 acres and stretching south from the well to the edge of the Rathdrum Prairie Aquifer defined by the Spokane River. The estimated time of travel from the edge of the aquifer to the well is a year or less.

Potential contaminant sources documented inside the well recharge zone include septic system components and surface waters of the Spokane River. The camp needs to test the well to determine whether it is hydraulically connected to the river. Contaminants of concern associated with septic systems are nitrates and microbial pathogens. Synthetic organic compounds and volatile organic compounds could be brought into the well recharge zone by camp maintenance activities or vehicles parked in that area.

Water Quality History. Camp White, under regulation as a non-community transient public water system since 1987, is required to monitor quarterly for bacterial contamination. Bacteria were absent from all samples tested in the past 10 years. Annual nitrate samples show concentrations ranging between 0.133 mg/l and 0.214 mg/l. The Maximum Contaminant Level (MCL) for nitrate is 10 mg/l.

Well Construction. The Camp White well was drilled in the 1940s to a reported depth of 175 feet. The 6-inch steel casing extends 6 inches above ground level, and a locked shed protects the well head. No well log is on file with DEQ, so many construction factors used to assess vulnerability to contamination are unknown. The 1998 sanitary survey of the system noted that an opening around submersible wires for the pump compromises the sanitary well seal.

Well Site Characteristics. Soils in the well recharge zone are generally well drained. Well-drained soils provide little protection against migration of contaminants toward the well. The soil structure above the water table in the well is unknown.

Susceptibility to Contamination. A susceptibility analysis of the Camp White well, incorporating information from the public water system file and the potential contaminant inventory, ranked the well moderately susceptible to all classes of regulated contaminants. While many risk factors in the system construction and hydrologic sensitivity portions of the analysis are unknown because the well log is unavailable, scores for the Camp White Well are in line with scores for other wells on the Rathdrum Prairie where the depth to ground water and composition of the soil above the water table are known. The susceptibility analysis worksheet for your well on page 6 of this report shows how your well was scored. Formulas used to compute the final susceptibility scores are at the bottom of the worksheet.

Source Water Protection. This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

The 186 public water systems in Idaho that draw water from the Rathdrum Prairie Aquifer should consider forming a regional group to represent their interests before state, county and municipal governing bodies when regulatory tools like zoning overlays, or enactment of building codes are the most appropriate ground water protection measures. The goal of source water protection is to maintain current water quality for the future despite the changes we can expect with population growth in North Idaho

Camp White is fortunate because it has direct jurisdiction over the entire recharge zone for its well. The camp's source water protection activities should focus first on repairing the area around the submersible wires servicing the pump. Breaks in the well seal provide a direct conduit to the aquifer for surface contaminants. The well should be tested to determine whether it is directly influenced by surface waters of the Spokane River.

No herbicides, pesticides, or fertilizers, should be used or stored within 50 feet of the well, and should be used sparingly in the well recharge zone shown on the map accompanying this report. RV parking should be discouraged in the recharge zone.

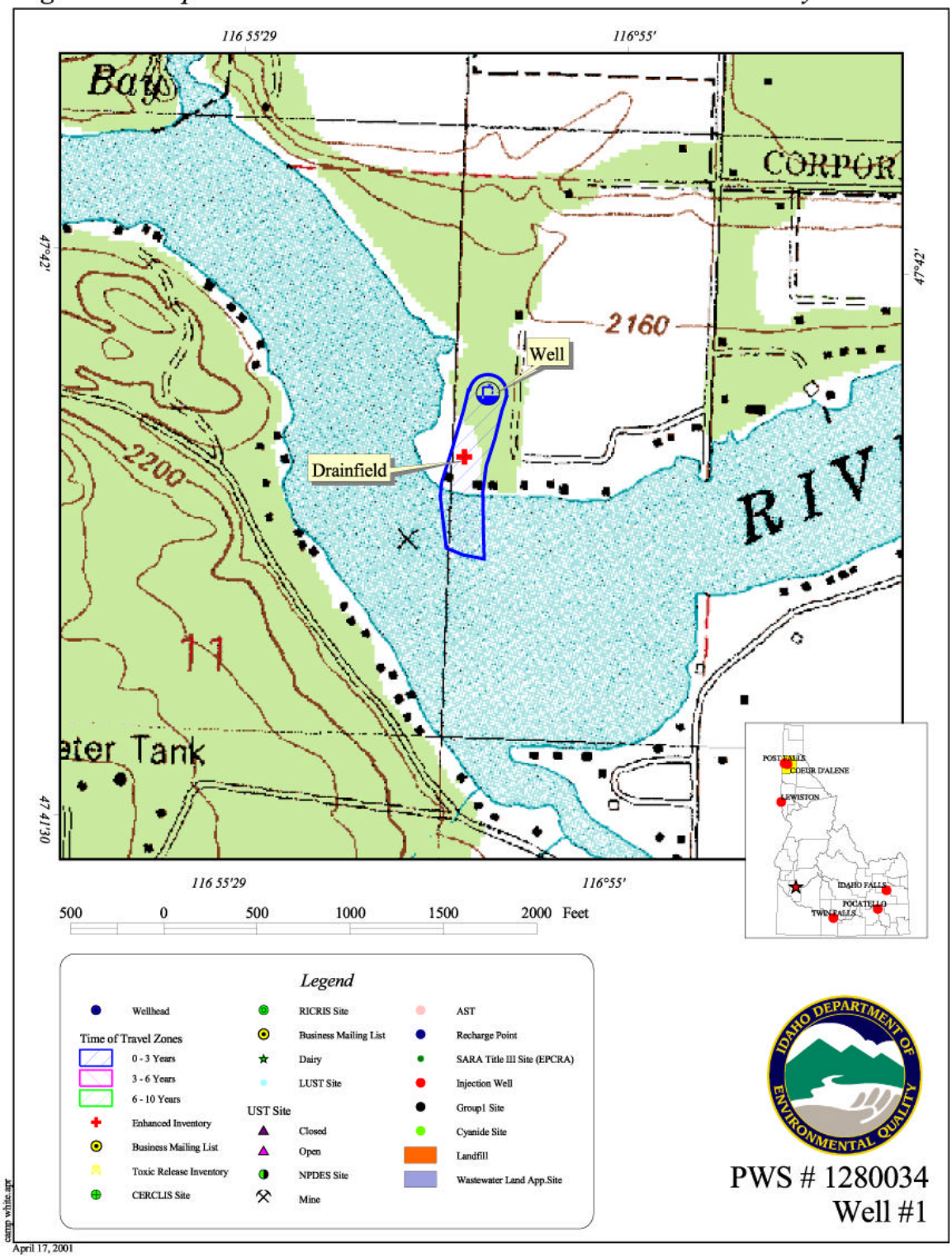
Maps in the public water system file for Camp White show that the camp drainfield is located inside the recharge zone. The drainfield should be monitored continuously for signs of failure such as odor or lush vegetation. The tank itself should be inspected annually.

For assistance in developing source water protection strategies please contact Tony Davis at the Coeur d'Alene Regional DEQ office at 208 769-1422.

DEQ website:

http://www2.state.id.us

Figure 1. Camp White Delineation and Potential Contaminant Inventory.



Ground Water Susceptibility

Public Water System Name : **CAMP WHITE** Well # : **WELL #1**

Public Water System Number : **1280034** 9/6/01 11:14:46 AM

1. System Construction		SCORE			
Drill Date	1/1/40				
Driller Log Available	NO				
Sanitary Survey (if yes, indicate date of last survey)	YES 1998				
Well meets IDWR construction standards	UNKNOWN	1			
Wellhead and surface seal maintained	NO	1			
Casing and annular seal extend to low permeability unit	UNKNOWN	2			
Highest production 100 feet below static water level	UNKNOWN	1			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		**5**			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	NO	2			
Vadose zone composed of gravel, fractured rock or unknown	UNKNOWN	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	UNKNOWN	2			
Total Hydrologic Score		**6**			
		IOC	VOC	SOC	Microbial
3. Potential Contaminant / Land Use - ZONE 1A		Score	Score	Score	Score
Land Use Zone 1A	WOODLAND	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	1	1	1	1
(Score = # Sources X 2) 8 Points Maximum		2	2	2	2
Sources of Class II or III leacheable contaminants or Microbials	YES	1	1	1	
4 Points Maximum		1	1	1	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		**3**	**3**	**3**	**2**
Cumulative Potential Contaminant / Land Use Score		**3**	**3**	**3**	**2**
4. Final Susceptibility Source Score		**12**	**12**	**12**	**12**
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.27)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Ranking:

0 - 5 Low Susceptibility
6 - 12 Moderate Susceptibility
> 13 High Susceptibility

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as Superfund is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.